

lines 21-23; page 20, lines 6-10; and page 21 lines 9 to page 22, line 10. Claims 19-27 have been previously withdrawn by the Examiner as being drawn to a non-elected invention. However, these claims should be rejoined under 35 USC §103 (b).

At the outset, Applicants thank Examiner Basi for the courtesies extended in the telephonic interview of January 8, 2003 with Applicants' representatives Samuel S. Woodley, Ph.D. (Reg. No. 43,287) and Jessica Jamieson (Reg. No. 52,483). The remarks made here below reflect the content of that interview.

The December 17, 2002 Communication states that Applicants Amendment, which was filed on August 22, 2001, is allegedly incomplete and non-responsive to the previous Office Action mailed May 22, 2001. In particular, the August 22 Amendment is said to be non-responsive because it fails to address the rejection of claim 18 under 35 U.S.C. §112, first paragraph. The May 22 Office Action states only that claim 18 was rejected because (according to the May 22 Office Action) the application does not provide sufficient descriptive information on peptides comprising residues 1-45 in SEQ ID NO:2 (FIGURE 4). Based on the Examiner's comments during the aforementioned interview, Applicants understand that this rejection is based upon an alleged lack of description relating to any specific functionality associated with those particular amino acid residues 1-45.

At the outset, Applicants note that the rejection of claim 18 in the May

22 Office Action for indefiniteness was groundless, as claim 18 was in independent form and consequently could not be indefinite for depending on an indefinite base claim. Moreover, since the Examiner related claim 18's alleged indefiniteness on "issues raised above," and the issues "raised above" related to claim 17, amendment of claim 17 to resolve those issues automatically obviated the rejection of claim 18, so no specific invention of claim 18 was necessary.

The rejection of claims 17 and 18 for non-enablement turned solely on the issues of "function conservative variants." Since amendment of claim 17 (and by implication, because of the apparently mistaken belief that claim 18 depended from 17) to cancel the recitation of function conservative variants obviated this ground for rejection. Indeed, the Examiner concluded the rejection of claims 17 and 18 by stating "... the specification does not provide a written description of the invention of claim 17." There is no mention of claim 18. The inescapable import of this rejection was that the "functionally conservative variants" language of claim 17 was the basis of this rejection. Certainly since the amino acid sequence of amino acids 1-45 of SEQ ID NO:2 was novel (see the 102(a) rejection of only claim 17), and fully described (amino acids 1-45 of SEQ ID NO:2 is its own complete description), a polypeptide comprising such a sequence needs no further description for one of ordinary skill in the art, and the Examiner made no argument under the 35 USC §112, first paragraph "written description" requirement raising an issue with respect to such

a polypeptide. Any arguments going to use or function relate to either 35 USC §101 or 35 USC §112, first paragraph enablement, and there was no such rejection made. Thus, the amendment filed August 22, 2001 was fully responsive.

Notwithstanding the foregoing, Applicants take this opportunity to amended claim 18 to recite an estrogen receptor β comprising amino acids 1-45 of SEQ ID NO:2. It is respectfully pointed out that amino acids 1-45 of SEQ ID NO:2 is a novel domain of human estrogen receptor- β , which was specifically described as a polypeptide sequence in the application as filed. See page 20, lines 6-10 and Figure 4 of the specification as filed. One of skill in the art would readily understand an estrogen receptor having such a sequence. Characteristics of estrogen receptor β are well known, (see page 1, line 18 to 2, line 4). Thus, an estrogen receptor β comprising amino acids 1-45 of SEQ ID NO:2 at the amino terminus fully meets the written description requirement.

Any function is intrinsic to the claimed estrogen receptor β . For example, in one embodiment, such an estrogen receptor transactivates reporter genes containing estrogen response elements in HepG2 cells in the presence of estradiol. See, page 12, line 5 to page 13, line 6 of the specification as filed. Similar results were found in human endothelial and yeast cells. See page 13, line 14 to page 14, line 14. In another embodiment, the experiment described on page 13, lines 7-13 and Figure 7, shows that the domain of amino acids 1-45 of SEQ ID NO:2

imparted functionality to the protein of hER β_L as demonstrated by the attenuation of IL-1 β -mediated NF κ B transcriptional activation.

The written description requirement of 35 U.S.C. §112, first paragraph, is satisfied if a skilled artisan would have understood the inventor to be in possession of the claimed invention at the time the application was filed, even if every nuance of the claims is not explicitly described in the specification. *Vas-Cath, Inc. v. Mahurkar*, 935 F.2d 1555, 1563, 19 USPQ2d 1111, 1116 (Fed. Cir. 1991). As explained in detail above, a skilled artisan would readily appreciate, upon reading the present application, that Applicants were indeed in possession of an estrogen receptor β that *comprises* the amino acid sequence corresponding to residues 1-45 in SEQ ID NO:2. For these reasons, Applicants submit that the rejection of claim 18 under 35 U.S.C. §112, first paragraph, should be withdrawn.

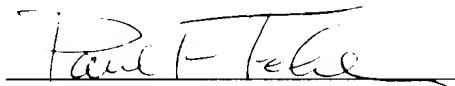
Conclusion

Therefore, in view of the above amendments and remarks, it is respectfully requested that the application be reconsidered and that all pending claims be allowed and the case passed to issue.

If there are any other issues remaining which the Examiner believes could be resolved through either a Supplemental Response or an Examiner's

Amendment, the Examiner is respectfully requested to contact the undersigned at the telephone number indicated below.

Respectfully submitted,

A handwritten signature in cursive script, appearing to read "Paul F. Fehlner", written over a horizontal line.

Paul F. Fehlner, Ph.D.

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PATENT TRADEMARK OFFICE

Docket No: 0646/1D205US1

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: Ramesh A. BHAT; Ruth HENDERSON; Chulai HSIAO;
Sotirios K. KARATHNASIS

Serial No.: 09/429,832

Art Unit: 1646

Confirmation No.: 6371

Filed: October 29, 1999

Examiner: N. Basi

For: NOVEL HUMAN ESTROGEN RECEPTOR-BETA

MARK-UP FOR AMENDMENT

Hon. Commissioner of
Patents and Trademarks
Washington, DC 20231

January 17, 2003

Sir:

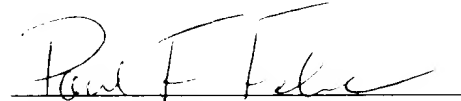
IN THE CLAIMS:

17. (Twice Amended) [A purified polypeptide] An isolated estrogen receptor- β
comprising a sequence [selected from the group consisting of the sequence] depicted

in Figure 4, SEQ ID. NO:2.

18. (Amended) [A purified polypeptide] An isolated estrogen receptor- β comprising amino acids 1-45 of the sequence depicted in Figure 4, SEQ ID NO:2.

Respectfully submitted,

A handwritten signature in dark ink, appearing to read "Paul F. Fehlner", written over a horizontal line.

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